

[METHOD OF FABRICATING SEMICONDUCTOR DEVICE]

Abstract

A method of fabricating a semiconductor device. A stack gate structure having a cap layer thereon and a first dielectric layer having a top surface that exposes the cap layer are formed on a substrate. A buffer layer is formed to cover the dielectric layer and the cap layers in a first region of the substrate. A portion of the cap layers in a second region of the substrate are removed so that the cap layers have a thickness smaller than or equal to the buffer layer. A second dielectric layer is formed over the substrate. A portion of the second dielectric layer and the underlying the buffer layer and the first dielectric layer are etched to form a bit line contact opening. In the meantime, a portion of the second dielectric layer and the underlying cap layer are etched to form a gate contact opening.